

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

TENTATIVE ORDER No. 96-010  
SITE CLEANUP REQUIREMENTS FOR:

ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY  
740 EAST CARNEGIE DRIVE  
SAN BERNARDINO, CA 92408-3571

for the Atchison, Topeka and Santa Fe Railway Co. Site Located at  
101 GARRARD BOULEVARD  
RICHMOND  
CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Board), finds that:

1. **Site Location:** The Site is located at 101 Garrard Boulevard (hereinafter the Site) in west Richmond, Contra Costa County. It covers an area of about 150 acres. The container operations occupy one-half of the property, tracks occupy another one-third, and the turntable, round house office, maintenance facility and various offices occupy the remainder of the area. The site is bounded on the north and west by Chevron U.S.A. Co. facilities, light commercial areas, and on the southeast by Garrard Boulevard and residential area. San Pablo canal is located approximately 1800 feet to the northwest.
2. **Site History:** The Site has been in operation since early 1900s. Recent activities include locomotive maintenance, fueling operations, truck and trailer maintenance, and container operations. Steam locomotives were originally fueled at the Site with No. 6 diesel fuel, which was stored in a fuel tank located to the west of the turntable in the previous fueling area. In 1950, the storage tank and fueling systems were converted to No. 2 diesel fuel. The remaining No. 6 diesel in the fuel tank was drained into a tank impoundment that was later removed and the surrounding soil was excavated. There is no record of the concentration of pollutants in soil and ground water that was left on Site. Some discharges are reported in the files. In 1978, the Discharger was cited by the California Department of Fish and Game for discharging oil contamination from storm discharge point No.3 (northeast corner) into the former Castro Street ditch. In October 1990, a sideswiped locomotive released 5000 gallons of diesel fuel about 1000 feet southwest of the present turntable at the Site. During cleanup, 2000 cubic yards of contaminated soil were removed and bioremediated on Site. No record of the pollutant concentrations, in the soil left on Site after the excavation and in the soil returned to the excavation after bioremediation, is available.

3. **Named Dischargers:** Atchison, Topeka and Santa Fe Railway Company is named as the discharger at the Site because it is the owner and operator of the facility since the early 1900s.  
If additional information is submitted indicating that other parties caused or permitted any waste to be discharged on the Site where it entered or could have entered waters of the state, the Board will consider adding that party's name to this order.
4. **Regulatory Status:** The Board adopted Cleanup and Abatement Order No. 95 - 143 for this Site on July 11, 1995.
5. **Site Hydrogeology:** The Site is located on an alluvial plain near the transition to a tidal mudflat adjacent to San Pablo Bay. It is located within the Richmond Basin where ground water occurs within a sequence of interfingering alluvial fans and estuary deposits. Ground water recharge is from the area of Berkeley Hills and some recharge occurs along the Portrero-San Pablo Ridge. The natural recharge has been reduced by urbanization and surface runoff drainage. The Site is located in an area of regional ground water discharge. In general, the Site is underlain by a layer of fill which ranges from 1 to 6 feet in thickness. The natural soil material consists of silty clay, sandy clay and sandy gravel and extends to the depth of 17.5 feet ( based on the boring logs from the Site ). First encountered ground water is between 1 and 17 feet below the ground surface. The regional ground water flow direction is to the north and northwest towards the San Pablo Bay.
6. **Remedial Investigation:** Site investigations have shown that soil and ground water beneath the Site have been polluted by diesel product. Diesel spilled during on-site operations has migrated downward to the shallow ground water aquifer. A plume of floating and dissolved diesel product has developed on the shallow aquifer. A floating product up to 1.6 feet thick is present beneath the area where the spills have occurred. A reported 43 shallow soil probes up to 10 feet deep, and 11 soil borings up to 17.5 feet were drilled at the Site. Only petroleum hydrocarbons presence was reported; sample depth and methods of analysis, and hydrocarbons concentrations are unknown. Eight of the soil borings were converted into four monitoring wells and four piezometers. A well survey within a half-mile of the Site, conducted for the Chevron site, reported no down gradient wells are currently used for water supply.
7. **Interim Remedial Measures:** The oil recovery operation from the area located in the vicinity of the turntable started in July 1989 and a cumulative total of 6606 gallons of oil has been removed from the ground water up to March 1995.
8. **Pollution Source:** Based on the above findings and on Site tenancy, the source of the hydrocarbons detected in soil and ground water at the Site originated from activities conducted by the Discharger .

9. **Adjacent Sites:** The downgradient area is occupied mostly by residential developments. The upgradient property is currently occupied by the Chevron U.S.A. Company. Business activities conducted on that property included manufacturing and warehouse storage of agricultural chemicals.
10. **Basin Plan:** The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986, and the State Board approved it on May 21, 1987. The Board has amended the Basin Plan several times since then. The Basin Plan defines beneficial uses and water quality objectives for waters of the State, including surface waters and ground waters. The potential beneficial uses of ground water underlying and adjacent to the Site include:
- a. Municipal and domestic water supply
  - b. Industrial process water supply
  - c. Industrial service water supply
- The potential beneficial uses of the Castro Ditch, San Pablo Canal, San Pablo Bay and contiguous surface waters include:
- a. Industrial process supply or service supply
  - b. Contact and non-contact water recreation
  - c. Wildlife habitat
  - d. Fish migration and spawning
  - e. Fresh water habitat
  - f. Navigation
  - g. Preservation of rare and endangered species
11. **Other Board Policies:** Board Resolution No. 88-160 strongly encourages dischargers of extracted, treated ground water from Site cleanups to reuse it or discharge it to the sanitary sewer.
- Board Resolution No. 89-39, "Sources of Drinking Water," defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally-high contaminant levels.
12. **State Water Board Policies:** State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California", applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Non-background cleanup levels must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives. State Water Board Resolution No. 92-49, "Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304", applies to this discharge. This order and its requirements are consistent with the provisions of Resolution No. 92-49, as amended.

13. **Preliminary Cleanup Goals:** The Discharger will need to make assumptions about future cleanup standards for soil and ground water, in order to determine the necessary extent of remedial investigation, and interim remedial actions in the draft cleanup plan. Pending the establishment of Site-specific cleanup standards, the following preliminary cleanup goals should be used for these purposes:
  - a. Ground water: Applicable water quality objectives (e.g. maximum contaminant levels, or MCLs) or, in the absence of a chemical-specific objective, risk-based levels (e.g. drinking water equivalent levels).
  - b. Soil: 100 mg/kg total petroleum hydrocabons, 1 mg/kg total volatile organic compounds (VOCs), 10 mg/kg total semi-volatile organic compounds (SVOCs), and background concentrations of metals.
14. **Basis for 13304 Order:** The Discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged into waters of the State and creates or threatens to create a condition of pollution or nuisance.
15. **Cost Recovery:** Pursuant to California Water Code Section 13304, the Discharger is hereby notified that the Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.
16. **CEQA:** This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.
17. **Notification:** The Board has notified the Discharger and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.
18. **Public Hearing:** The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

**IT IS HEREBY ORDERED**, pursuant to Section 13304 of the California Water Code, that the Discharger (or its agents, successors, or assigns) shall cleanup and abate the effects described in the above findings as follows:

**A. PROHIBITIONS**

1. The discharge of wastes or hazardous substances in a manner which will degrade water quality or adversely affect beneficial uses of waters of the State is prohibited.
2. Further significant migration of wastes or hazardous substances through subsurface transport to waters of the State is prohibited.
3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of wastes or hazardous substances are prohibited.

## **B. TASKS**

### **1. WORKPLAN TO IDENTIFY SOURCES**

COMPLIANCE DATE: May 17, 1996

Submit a workplan acceptable to the Executive Officer to inventory chemicals used on the Site (by name and volume) and to identify all pollution sources on the Site, including chemical and pesticide make up or storage areas, sumps, underground and aboveground tanks, locomotive idling areas, transformers and parts dumping areas and related facilities. All past and present activities are to be investigated, including tank removals and spill events, aerial photographs of the Site, taken in the past years, interviews with old or past employees about pollution causing activities, records of the pollutants in hazardous or designated wastes hauled from the Site should be included. The workplan should specify investigation methods and a proposed time schedule.

### **2. COMPLETION OF SOURCE IDENTIFICATION**

COMPLIANCE DATE: 90 days after Executive Officer (EO) approval of workplan submitted in Task 1.

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Task 1 workplan. The technical report should identify confirmed and possible sources of pollution.

### **3. REMEDIAL INVESTIGATION WORKPLAN**

COMPLIANCE DATE: 60 days after EO approval of technical report submitted in Task 2.

Submit a workplan acceptable to the Executive Officer to define the vertical and lateral extent of all soil and ground water pollution for the whole Site. The workplan should specify investigation methods and a proposed time schedule. Work may be phased to allow the investigation to proceed efficiently.

If the workplan submitted in response to Corrective Measure B.3. of Cleanup And Abatement Order No. 95-143 defines the vertical and lateral extent of soil and ground water pollution in the vicinity of the fueling area, this report will supplement that report to define the extent of all additional soil and ground water pollution on the Site.

4. **COMPLETION OF REMEDIAL INVESTIGATION**

COMPLIANCE DATE: 150 day after EO approval of workplan submitted in Task 3.

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Task 3 workplan. The technical report should define the vertical and lateral extent of pollution down to concentrations at or below typical cleanup standards for soil and ground water.

5. **INTERIM REMEDIAL ACTION WORKPLAN**

COMPLIANCE DATE: June 30, 1996

Submit a workplan acceptable to the Executive Officer to evaluate the existing interim remedial actions and if additional remedial actions are needed. Evaluation of existing interim remedial actions should include an evaluation of hydraulic containment and free product cleanup efficiency, effectiveness and completion date. In particular, the report should evaluate the following in detail:

- hydraulic characteristics and influence on free product removal;
- optimum ground water extraction and removal rates;
- fate and transport of contaminants;
- system operation mode and problems encountered during that period; and
- suggested methods to improve remediation performance.

If additional interim remedial actions are needed, a workplan and time schedule for their implementation shall be provided. Work may be phased to allow the investigation to proceed efficiently.

6. **COMPLETION OF INTERIM REMEDIAL ACTIONS**

COMPLIANCE DATE: 90 day after EO approval of workplan submitted in Task 5.

Submit a technical report acceptable to the Executive Officer documenting completion of necessary tasks identified in the Task 5 workplan. For ongoing actions, such as soil vapor extraction, the report should document start-up as opposed to completion.

7. **PROPOSED FINAL REMEDIAL ACTIONS AND CLEANUP STANDARDS**

COMPLIANCE DATE: 450 days after EO approval of technical report submitted in Task 4.

Submit a technical report acceptable to the Executive Officer containing:

- a. Results of the remedial investigation
- b. Feasibility study evaluating alternative final remedial actions
- c. Risk assessment for current and post-cleanup exposures
- d. Recommended final remedial actions and cleanup standards
- e. Implementation tasks and time schedule

Item b should include projections of cost, effectiveness, benefits, and impact on public health, welfare, and the environment of each alternative action.

Items a and b should be consistent with the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part300), CERCLA guidance documents with respect to remedial investigations and feasibility studies, Health and Safety Code Section 25356.1(c), and State Board Resolution No. 92-49 as amended ("Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304").

Items a through d should consider the preliminary cleanup goals for soil and groundwater identified in finding 13.

8. **Delayed Compliance:** If the Discharger is delayed, interrupted, or prevented from meeting one or more of the completion dates specified for the above tasks, the Discharger shall promptly notify the Executive Officer, and the Board may consider revision to this Order.

**D. PROVISIONS**

1. **No Nuisance:** The storage, handling, treatment, or disposal of polluted soil or groundwater shall not create a nuisance as defined in California Water Code

Section 13050(m).

2. **Good O&M:** The Discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.
3. **Cost Recovery:** The Discharger shall be liable, pursuant to California Water Code Section 13304, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the Site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to the procedures established in that program. Any disputes raised by the Discharger over reimbursement amounts or methods used in that program shall be consistent with the dispute resolution procedures for that program.
4. **Access to Site and Records:** In accordance with California Water Code Section 13267(c), the Discharger shall permit the Board or its authorized representative:
  - a. Entry upon premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.
  - b. Access to copy any records required to be kept under the requirements of this Order.
  - c. Inspection of any monitoring or remediation facilities installed in response to this Order.
  - d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the Discharger.
5. **Self-Monitoring Program:** The Discharger shall comply with the Self-Monitoring Program as attached to this Order and as may be amended by the Executive Officer.
6. **Contractor/ Consultant Qualifications:** All technical documents shall be signed by and stamped with the seal of a California registered geologist, a California certified engineering geologist, or a California registered civil engineer.
7. **Lab Qualifications:** All samples shall be analyzed by State-certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality

assurance/quality control (QA/QC) records for Board review. This provision does not apply to analyses that can only reasonably be performed on-Site (e.g. temperature).

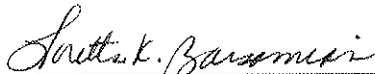
8. **Document Distribution:** Copies of all correspondence, technical reports, and other documents pertaining to compliance with this Order shall be provided to the Contra Costa County Health Services Department.
9. **Reporting of Changed Owner or Operator:** The Discharger shall file a report on any changes in Site occupancy or ownership associated with the property described in this Order.
10. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, the Discharger shall report such discharge to the Regional Board by calling (510) 286-1332 during regular office hours (Monday through Friday, 7:00 to 5:00).

A written report shall be filed with the Board within five (5) working days. The report shall describe: the nature of the hazardous substance, estimated quantity involved, duration of incident, cause of release, estimated size of affected area, nature of effect, corrective actions taken or planned, schedule of corrective actions planned, and persons/ agencies notified.

This reporting is in addition to reporting to the Office of Emergency Services required pursuant to the Health and Safety Code.

11. **Periodic SCR Review:** The Board will review this Order periodically and may revise it when necessary. The Discharger may request revisions and upon review, the Executive Officer may recommend that the Board revise these requirements.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on January 17, 1996.

  
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Loretta K. Barsamian  
Executive Officer

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FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT  
YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION  
OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13267 OR  
13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR  
CIVIL OR CRIMINAL LIABILITY

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Attachment: Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY  
740 EAST CARNEGIE DRIVE  
SAN BERNARDINO, CA 92408-3571

for the Atchison, Topeka and Santa Fe Railway Co. Site Located at  
101 GARRARD BOULEVARD  
RICHMOND  
CONTRA COSTA COUNTY

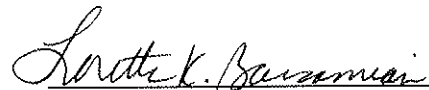
1. **Authority and Purpose:** The Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code Sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with Board Order No. 96-010.
2. **Monitoring:** The Discharger shall measure ground water elevations and free product in the existing wells quarterly and shall collect and analyze representative samples of ground water in accord with the schedule in Appendix I.  
The Discharger shall sample any new monitoring or extraction wells quarterly and analyze ground water samples for the same constituents. After a minimum of two years of quarterly monitoring, the Discharger may propose changes in the schedule; any proposed changes are subject to Executive Officer approval.
3. **Quarterly Monitoring Reports:** The Discharger shall submit quarterly monitoring reports to the Board no later than 30 days following the end of the quarter (e.g. first quarter report of the year would be due April 30). The first quarterly monitoring report for this Order shall be due on April 30, 1996. The reports shall include:
  - a. **Transmittal Letter:** The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall be signed by the Discharger's principal executive officer or his/her duly authorized representative, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.
  - b. **Ground Water Elevations:** Ground water elevation data shall be presented in tabular form, and a ground water elevation map should be prepared for each monitored water-bearing zone. Well data including, but not being limited to the

well depths, screen intervals, well elevations, shall also be presented in tabular form. Historical groundwater elevations shall be included in the fourth quarterly report each year.

- c. **Ground Water Analyses:** Ground water sampling data shall be presented in tabular form, and an iso-concentration map should be prepared for one or more key contaminants for each monitored water-bearing zone, as appropriate. The report shall indicate the analytical method used and detection limits obtained for each reported constituent. Historical ground water sampling results shall be included in the fourth quarterly report each year. The report shall describe any significant increases in contaminant concentrations since the last report, and any measures proposed to address the increases. Supporting data, such as laboratory data sheets, need not be included (however, see record keeping - below). QA/QC summary data shall be included in the report.
  - d. **Ground Water Extraction:** If applicable, the report shall include ground water extraction results in tabular form, for each extraction well and for the Site as a whole, expressed in gallons per minute and total ground water volume for the quarter. The report shall also include contaminant removal results, from ground water extraction wells and from other remediation systems (e.g. soil vapor extraction), expressed in units of chemical mass per day and mass for the quarter. Historical mass removal results shall be included in the fourth quarterly report each year.
  - e. **Status Report:** The quarterly report shall describe relevant work completed during the reporting period (e.g. Site investigation, interim remedial measures) and work planned for the following quarter.
- 4. **Violation Reports:** If the Discharger violates requirements in the Site Cleanup Requirements, then the Discharger shall notify the Board office by telephone as soon as practicable once the Discharger has knowledge of the violation. Board staff may, depending on violation severity, require the Discharger to submit a separate technical report on the violation within five (5) working days of telephone notification.
  - 5. **Other Reports:** The Discharger shall notify the Board prior to any Site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for Site investigation.
  - 6. **Record Keeping:** The Discharger or his/her agent shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of six years after origination.
  - 7. **SMP Revisions:** Revisions to the Self-Monitoring Program may be ordered by the

Executive Officer, either on his/her own initiative or at the request of the Discharger. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

I, Loretta K. Barsamian, Executive officer, hereby certify that this Self-Monitoring Program was adopted by the Board on January 17, 1996.

  
Loretta K. Barsamian  
Executive Officer

Appendix I - Self-Monitoring Schedule

## APPENDIX I

### Self - Monitoring Schedule for the Atchison, Topeka & Santa Fe Railway Company

<u>WELL #</u>	<u>SAMPLING</u> <u>FREQUENCY</u>	<u>ANALYSES</u> (all wells )
MW-1	Q	TPH-g, BTEX,TPH-d, Oil & Grease, PAHs,
MW-2	Q	VOCs, Semi-VOCs, PCBs, Pesticides & Herbicides.
MW-3	Q	
MW-4	Q	

Explanation:

Q - quarterly